



UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/593,891 06/14/00 NAKAYAMA

S NFC DP-624

MM92/0601

EXAMINER

NORMAN P SOLOWAY ESQ  
HAYES SOLOWAY HENNESSEY GROSSMAN & HAGE  
175 CANAL STREET  
MANCHESTER NH 03101

CHU, C

ART UNIT

PAPER NUMBER

2815

DATE MAILED:

06/01/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.

09/593,891

Applicant(s)

NAKAYAMA, SADA O

Examiner

Chris C. Chu

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 - 8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1 - 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, it can not be determined what the applicant regards as the “constituted in such a way that it causes.” Further, the term “in such a way” is a relative term, which renders the claim indefinite. The term “in such a way” is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The term “in such a way” is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). Even further, the phrase “it causes” is not defined in the specification and reason of the cause is not clearly written, therefore, “it causes” must be defined in the specification or the phrase cancelled from the claim. No new matter should be entered.

### *Specification*

3. The disclosure is objected to because of the following informalities: on page 4, lines 3, the brief description of Fig. 4 needs more description or a circle the enlarged part on Fig. 3.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

5. Claims 1 ~ 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Takiar et al.

Note Fig. 6 of Takiar et al., where the reference shows a semiconductor storage device (156) constituted in such a way that it causes a lower chip (158) and an upper chip (162) are superimposed on a substrate comprising: a wiring substrate (160) for relaying electric connection between the upper chip (162) and the substrate which wiring substrate (160) is provided between the lower chip (158) and the upper chip (162).

Regarding claim 2, Fig. 6 and Fig. 2 of Takiar et al., where the reference shows a first terminal (on top of 160 and 68 in Fig. 2 and column 8, lines 44 ~ 47) connected to a terminal (on top of 162) on a surface of the upper chip (162), a second terminal (on top of 160 and 68 in Fig. 2 and column 8, lines 44 ~ 47) connected to a terminal (168) on a surface of the substrate, and a wiring pattern (68 in Fig. 2 and column 8, lines 44 ~ 47) for connecting the first and the second terminals on the surface of the wiring substrate (160).

Art Unit: 2815

6. Claims 1 ~ 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Warren.

The only figure in Warren, where the reference shows a semiconductor storage device (10) constituted in such a way that it causes a lower chip (12) and an upper chip (22) are superimposed on a substrate (11) comprising: a wiring substrate (14) for relaying electric connection between the upper chip (22) and the substrate (11) which wiring substrate (14) is provided between the lower chip (12) and the upper chip (22).

Regarding claim 2, the only figure in Warren, where the reference shows a first terminal (must be around 22 as structure inherent in) connected to a terminal (must be on top of the 22 as structure inherent in) on a surface of the upper chip (22), a second terminal (17) connected to a terminal (11a) on a surface of the substrate (11), and a wiring pattern (column 3, lines 20 ~ 34) for connecting the first and the second terminals on the surface of the wiring substrate (14).

Regarding claim 3, the only figure in Warren, where the reference shows a semiconductor storage device (10) further comprising: a first bonding wire (see the figure) for connecting the terminal of the surface of the upper chip with the first terminal; and a second bonding wire (20) for connecting the terminal (11a) of the surface of the substrate (11) with the second terminal (17).

Regarding claim 4, Warren discloses a wiring pattern (column 3, lines 20 ~ 34) whose one end is connected to a terminal on a rear surface of the upper chip, and whose other terminal is connected to a terminal on a surface of the lower chip.

Regarding claims 5 and 6, the only figure in Warren, where the reference shows said terminal (13) of the surface of said lower chip (12) is connected to said terminal (11a) of the surface of said substrate (11a) by a third bonding wire (see the figure).

Regarding claims 7 and 8, the only figure in Warren, where the reference shows said wiring substrate is sheet shape or board shape (see the figure) wiring substrate (14).

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Farnworth and Bruce et al disclose a semiconductor storage device.

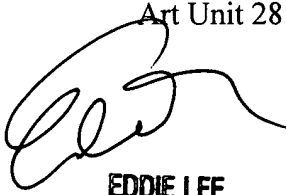
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chris C. Chu whose telephone number is (703) 305-6194. The examiner can normally be reached on M-F (9:30 - 6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Chris C. Chu  
Examiner  
Art Unit 2815

c.c.  
May 29, 2001



**EDDIE LEE**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2800**